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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/721,617

11/25/2003

Jorge Sanchez

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7590

05/19/2006

Todd S. Parkhurst
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EXAMINER

ZEMEL, IRINA SOPJIA

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,617

Applicant(s)

SANCHEZ ET AL.

Examiner

Irina S. Zemel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-16,18-20 and 22-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-16,18-20 and 22-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-5, 7-16, 18-20, 22-39 are, rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 claims epoxidized soybean oil as a secondary plasticizer. While the specification discloses epoxidized soybean oil, this component is disclosed as heat stabilizer, not the secondary plasticizer. Thus, there is no support for the claimed language "epoxidized soybean oil secondary plasticizer". Further, since epoxidized soybean oil is only disclosed as heat stabilizer, there is no support for the claimed ranges of this component as per claims 9 and 14.

Claim 20 recites a specific sequence of addition of the components in to the mixture reciting "adding rheology modifiers; and, thereafter adding and mixing microspheres to said mixture", which is in direct contrast to the originally claimed step sequence claiming adding rheology modifiers after the microspheres. This language, contrary to the applicants allegation, is not supported in the specification and can not be reasonable inferred from the clause "overmixing after the addition of microspheres must be avoided."

Claims 31 and 39 claim a compound that is not disclosed anywhere in the specification either directly or as incorporated by reference to another document. As such, the claimed limitation clearly constitutes new matter not supported by the original specification. Applicants submission of an external document (not referenced in the original specification) can NOT serve as a basis for claiming compounds that have never been disclosed or discussed in the original specification.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims , 3-5, 7-16, 18-20, 22-30, 33, 35-37 re rejected under 35 U.S.C. 103(a) as being unpatentable over under 35 U.S.C. 103(a) as obvious over Gerace in combination with either US Patent 3,627,707 to Giesler et al., (hereinafter "Giessler") or US Patent 3,917,550 to Clas et al., (hereinafter "Clas").

The disclosure of the Gerace reference is discussed in detail in the previous office action. As to the newly added limitation for the claimed compound to have less than .3 % of water, this limitation appears to be inherently met by the disclosed compositions. The Gerace reference does not address the water content limitation, however all of the components added to the disclosed compositions are dry components having virtually no water in it. Thus, the limitation is inherently met by the disclosed plastisol compositions. The base claims contain newly added limitation to epoxidized soybean oil, heat stabilizers containing zinc, dry expanded microspheres and glass microspheres. The glass microspheres are disclosed as suitable additives in

column 18, lines 34-35, thus making use of an expressly disclosed component obvious for its intended function as a filler. The reference further expressly discloses suitability of dry expanded microspheres throughout the specification see, for example, column 7, lines 48-50. Epoxidized soybean oil is notoriously known plasticizer for PVC, and, thus, addition of epoxidized soybean oil to the PVC based plastisols would have been obvious for its known function as evidenced, for example from the disclosures of either Giessler or Clas. Similarly, zinc containing stabilizer, such as calcium zinc stabilizers are notoriously known in the art of PVC plastisols and would have been an obvious addition for its known function, as evidenced by, for example, Giessler. Insofar as the relative amounts of the components, the primary reference, Gerace, does not exemplified the claimed amounts, however, the reference discloses that conventional amount of the PVC based plastisols are used. In this respect, conventional amounts of PVC in the plastisol compositions include the claimed amounts as, for example, evidence by claim 1 of Clas, and, therefore, choosing the amounts corresponding to the claimed amounts would have been obvious as conventional amounts absent showing of unexpected results that can be clearly attributed to the claimed amounts.

Insofar as the newly added limitation of claims 20 requiring a particular sequence of adding components to the mixture, to the extent that the reference does not specifically address the sequence of adding the components or exemplified a different sequence of adding the components, it has been long established by the law that in the absence of unexpected results, selection of any order of mixing ingredients is *prima facie* obvious. *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930).

Claims 31 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerace in combination with either US Patent 3,627,707 to Giesler et al., (hereinafter "Giessler") or US Patent 3,917,550 to Clas et al., (hereinafter "Clas") as applied to claims 1 and 9 respectively, and further in combination with Preliminary Risk Characterization for Acetyl Tributyl Citrate Used as a Plasticizer in Polyvinyl Chloride Children's Toys (submitted by the applicants).

The Gerace reference expressly discloses addition of plasticizers to the PVC based plastisols, but does not expressly lists the claimed acetyltributyl citrate. The claimed plastisizer is a known plastisizer for PVC as evidence from the referenced article and as admitted by the applicants in their remarks. Thus, addition of a known plastisizer to the PVC based compositions of Gerace would have been obvious for its known plasticizing function with reasonable expectation of adequate results.

Claims 32, 34 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerace in combination with either US Patent 3,627,707 to Giesler et al., (hereinafter "Giessler") or US Patent 3,917,550 to Clas et al., (hereinafter "Clas") as applied to claims 1 and 9 respectively, and further in combination with US Patent 4,797,314 to Davey et al., (hereinafter "Davey").

The Gerace reference expressly discloses addition of various thixotropic additives to the PVC based plastisols, but does not expressly lists the claimed organophilic clay. The claimed additive is a known thixotropic agent for PVC as evidence from the Davey (column 3). Thus, addition of a known thixotropic to the PVC

based compositions of Gerace would have been obvious for its known function with reasonable expectation of adequate results.

. Claims 1,3, 6-8, 20, 22, and 25, 27-30, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU 907036 (hereinafter "SE '036") in combination with Christy or Miller and further in combination with Giessler.

The combined teachings of SU '036, Christy and Miller is discussed in detail in the previous office action. As far as the claimed glass microspheres, Christy expressly discloses such microballons as known lightweight filler for various polymers, see column 4, lines 24-33 and also expressly discloses its function. Thus, addition of microspheres to the compositions disclosed by SU '036 would have been obvious for its expected effect. . As to the newly added limitation for the claimed compound to have less than .3 % of water, this limitation appears to be inherently met by the disclosed compositions. The SU '036 reference does not address the water content limitation, however all of the components added to the disclosed compositions are dry components having virtually no water in it. Thus, the limitation is inherently met by the disclosed plastisol compositions. The base claims further contain newly added limitation to epoxidized soybean oil, heat stabilizers containing zinc. Epoxidized soybean oil is notoriously known plasticizer for PVC, and, thus, addition of epoxidized soybean oil to the PVC based plastisols would have been obvious for its known function as evidenced, for example from the disclosures of Giessler. Similarly, zinc containing stabilizer, such as calcium zinc stabilizers are notoriously known in the art of PVC plastisols and would

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have been an obvious addition for its known function, as evidenced by, for example, Giessler.

As per claim 20, while the primary references may disclose a different order of adding the claimed components (as per the method claims), it has been long held by the court that selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. See *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.). Thus the claimed process would have been obvious from the combined teachings of the above cited references.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over SU 907036 (hereinafter "SE '036") in combination with Christy or Miller, Giessler and further in combination with Preliminary Risk Characterization for Acetyl Tributyl Citrate Used as a Plasticizer in Polyvinyl Chloride Children's Toys (submitted by the applicants).

Addition of the claimed plastisizer to compositions of SU would have been obvious for the same reasons as its addition is obvious to the composition of Gerace discussed above.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over SU 907036 (hereinafter "SE '036") in combination with Christy or Miller, Giessler and further in combination with Davey.

Addition of the claimed thixotropic agent to compositions of SU would have been obvious for the same reasons as its addition is obvious to the composition of Gerace discussed above.

Response to Arguments

Applicant's arguments filed 3-16-2006 have been fully considered but they are not persuasive. The applicants argue that Gerace does not contemplate expoxidized soybean oil, nor does Gerace contemplate modeling compounds having 0.3% or less of water. This argument is address above and inherency/obviousness of addition of certain claimed components is discussed above. The applicants further argue the disclosure of relative amounts of the components in the composition (as only relevant the claims reciting those limitations, as the base claims 1 and 20 do not recite such limitations), the relative amounts and their obviousness are also discussed above.

The applicants further agree that SE specifically teaches polyvinyl chloride in a weight percent of 67-75. Rejection of claims reciting specific amounts of PVC component over SU reference (in combination with other references) is withdrawn, thus, the arguments are moot.

The applicants further state that independent claim 20 has been amended to address the problem of over-mixing after the addition of microspheres and the subsequent generation of excess heat which can degrade the inal product and shorten its half-life.

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As discussed above, this limitation is NOT supported by the original specification which, while disclosing addition of microspheres after PVC is blended with stabilizers and plasticizers, does not disclose addition of microspheres subsequent to the addition of rheology modifier. Moreover, no unexpected results are due to the sequence of the addition of the components to the mixture is presented on the record, and the specification merely discusses a possibility of microsphere damage if the mixture is overmixed, not the unexpected effects or properties that positively occur by mixing the components in the claimed sequence.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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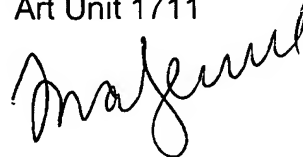
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ISZ

Irina S. Zemel
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A handwritten signature in cursive script, appearing to read 'Irina S. Zemel', written in black ink.